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APPENDIX TABLE 17.1

Summary of escapement goal-setting methods for U.S. salmon management units, by species and state (or Alaskan region).

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Alaska Peninsula/Aleutian Islands)								
Excellent	Combined-strong							0
Good	Habitat-advanced				2	2	2	2
	Spawner/recruit							0
	Historic	1				3		4
Fair	Combined-weak		9	11	16			25
	Habitat					4		4
	Recent escapements	4		5	3			12
Poor	Index							0
No method	No goal	1	3	4	4	5		17
No information	No information							0
Alaska (Bristol Bay)								
Excellent	Combined-strong							0
Good	Habitat-advanced							0
	Spawner/recruit	1		1	1	9		11
	Historic							0
Fair	Combined-weak	1		3				4
	Habitat							0
	Recent escapements	1						1
Poor	Index							0
No method	No goal		25	24	10	9	9	77
No information	No information							0
Alaska (Chignik)								
Excellent	Combined-strong							0
Good	Habitat-advanced							0
	Spawner/recruit				2	2		2
	Historic	5		5				10
Fair	Combined-weak							0
	Habitat							0
	Recent escapements	1						1
Poor	Index							0
No method	No goal			2				2
No information	No information							0
Alaska (Cook Inlet)								
Excellent	Combined-strong				3			3
Good	Habitat-advanced							0
	Spawner/recruit				2	2		0
	Historic	3		1				4
Fair	Combined-weak	2	14	30	12			58
	Habitat							0
	Recent escapements	20		6	1			27
Poor	Index							0
No method	No goal							0
No information	No information							0

APPENDIX TABLE 17.1 (continued)

Summary of escapement goal-setting methods for U.S. salmon management units, by species and state (or Alaskan region).

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Kodiak)								
Excellent	Combined-strong	0	0	0	0	0	0	0
Good	Habitat-advanced	0	0	0	0	0	0	0
	Spawner/recruit	0	0	0	5	0	0	5
	Historic	0	0	0	5	0	0	5
Fair	Combined-weak	0	0	0	1	0	0	1
	Habitat	0	0	0	0	0	0	0
	Recent escapements	3	77	41	100	26	0	247
Poor	Index	0	0	0	0	0	0	0
No method	No goal	0	7	6	6	1	0	20
No information	No information	0	1	0	4	0	0	5
Alaska (Prince William Sound)								
Excellent	Combined-strong	0	0	0	0	0	0	0
Good	Habitat-advanced	0	0	0	0	0	0	0
	Spawner/recruit	0	0	0	1	0	0	1
	Historic	0	0	7	0	16	0	23
Fair	Combined-weak	1	0	0	0	0	0	1
	Habitat	0	0	0	0	0	0	0
	Recent escapements	1	0	0	2	0	0	5
Poor	Index	0	0	0	0	0	0	0
No method	No goal	0	0	0	0	0	0	0
No information	No information	0	0	0	0	0	0	0
Alaska (Southeast)								
Excellent	Combined-strong	0	0	0	0	0	0	0
Good	Habitat-advanced	0	0	0	0	0	0	0
	Spawner/recruit	1	0	0	0	0	0	1
	Historic	0	0	0	0	0	0	0
Fair	Combined-weak	3	0	1	0	0	0	4
	Habitat	0	2	2	0	0	0	7
	Recent escapements	3	0	0	4	0	0	3
Poor	Index	0	0	0	0	6	0	11
No method	No goal	0	0	10	0	0	0	10
No information	No information	3	0	0	3	1	7	14
Washington								
Excellent	Combined-strong	0	0	4	0	0	0	4
Good	Habitat-advanced	0	0	16	0	0	38	54
	Spawner/recruit	1	0	0	0	0	1	2
	Historic	3	0	0	5	0	0	8
Fair	Combined-weak	1	4	12	0	1	0	18
	Habitat	8	1	11	0	1	0	10
	Recent escapements	9	59	0	1	0	1	70
Poor	Index	0	2	0	0	0	0	2
No method	No goal	0	2	3	12	1	33	57
No information	No information	28	16	1	1	3	20	69

APPENDIX TABLE 17.1 (continued)

Summary of escapement goal-setting methods for U.S. salmon management units, by species and state (or Alaskan region).

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Oregon								
Excellent	Combined-strong							0
Good	Habitat-advanced							0
	Spawner/recruit			1	1			2
	Historic	7						7
Fair	Combined-weak	3						3
	Habitat							0
	Recent escapements							0
Poor	Index							0
No method	No goal	2	1	1				4
No information	No information							84
California								
Excellent	Combined-strong							0
Good	Habitat-advanced	1						1
	Spawner/recruit							0
	Historic							0
Fair	Combined-weak							0
	Habitat							0
	Recent escapements	1						1
Poor	Index							0
No method	No goal	5						5
No information	No information							0

APPENDIX TABLE 17.2

Number of populations, by species and state (or Alaskan region), for which each method of escapement estimation is used.

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Alaska Peninsula/Aleutian Islands)								
Excellent	Dam count							0
	Trap count					2		2
Good	Dam or trap estimate							0
	Tower							0
	Sonar							0
Fair	Mark/recapture							0
	Combined							0
Poor	Foot survey							0
	Aerial survey	11	117	20	300	51		499
	Boat survey							0
	Snorkeling							0
	Test fishing							0
None	No method							0
No information	No information		1	3				4

APPENDIX TABLE 17.2 (continued)

Number of populations, by species and state (or Alaskan region), for which each method of escapement estimation is used.

Alaska (Chignik)

Excellent	Dam count		0	0		Dam count		0	0
	Trap count					Trap count		0	0
Good	Dam or trap estimate	1			2	Dam or trap estimate	3		
	Tower					Tower		0	
Fair	Sonar					Sonar		0	
	Mark/recapture					Mark/recapture		0	
Poor	Combined			1	1	Combined	1		
	Foot survey					Foot survey		0	
Aerial survey						Aerial survey	99		
	Boat survey					Boat survey		0	
Snorkeling						Snorkeling		0	
	Test fishing					Test fishing		0	
None	No method					No method		0	
No information	No information					No information	0		

Alaska (Cook Inlet)

Excellent	Dam count					0
	Trap count					0
Good	Dam or trap estimate		1	4	5	
	Tower					0
Fair	Sonar			3	3	
	Mark/recapture					0
Poor	Combined	8	3	4	5	20
	Foot survey	2	3	15		23
	Aerial survey	15	11	12	4	42
	Boat survey					0
	Snorkeling					0
	Test fishing					0
None	No method					0
No information	No information					0

APPENDIX TABLE 17.2 (continued)

Number of populations, by species and state (or Alaskan region), for which each method of escapement estimation is used.

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Kodiak)								
Excellent	Dam count	0	0	0	0	0	0	0
Good	Trap count	3	4	14	20	14	0	55
Good	Dam or trap estimate	0	0	0	0	0	0	0
Good	Tower	0	0	0	0	0	0	0
Good	Sonar	0	0	0	0	0	0	0
Fair	Mark/recapture	0	0	0	0	0	0	0
Fair	Combined	1	1	1	1	1	0	0
Poor	Foot survey	1	33	15	0	0	0	50
No method	Aerial survey	0	86	24	138	28	0	276
No information	Boat survey	0	0	0	0	0	0	0
No information	Snorkeling	0	0	0	0	0	0	0
No information	Test fishing	0	0	0	0	0	0	0
None	No method	0	0	0	0	0	0	0
No information	No information	0	0	0	3	0	0	4
Alaska (Prince William Sound)								
Excellent	Dam count	0	0	0	0	0	0	0
Good	Trap count	0	0	0	0	0	0	0
Good	Dam or trap estimate	0	0	0	0	1	0	1
Good	Tower	0	0	0	0	0	0	0
Good	Sonar	0	0	0	1	0	0	1
Fair	Mark/recapture	0	0	0	0	0	0	0
Fair	Combined	1	0	0	0	16	0	17
Poor	Foot survey	0	0	0	0	0	0	0
Poor	Aerial survey	0	9	202	30	419	3	663
Poor	Boat survey	0	0	0	0	0	0	0
Poor	Snorkeling	0	0	0	0	0	0	0
Poor	Test fishing	0	0	0	0	0	0	0
None	No method	0	0	0	0	0	0	0
No information	No information	0	0	1	0	0	0	1
Alaska (Southeast)								
Excellent	Dam count	0	0	0	0	0	0	0
Good	Trap count	2	0	4	0	0	0	6
Good	Dam or trap estimate	1	0	2	0	23	2	31
Good	Tower	0	0	0	0	0	0	0
Good	Sonar	0	0	0	0	0	0	0
Fair	Mark/recapture	0	0	0	0	0	0	0
Fair	Combined	19	0	3	0	0	0	22
Poor	Foot survey	0	0	0	0	1	0	1
Poor	Aerial survey	12	742	658	3	102	18	1535
Poor	Boat survey	0	0	0	0	0	0	0
Poor	Snorkeling	0	0	0	0	0	0	0
Poor	Test fishing	0	0	0	0	0	0	0
None	No method	1	770	1707	0	84	316	2878
No information	No information	51	0	0	2405	0	0	2456

APPENDIX TABLE 17.2 (continued)

Number of populations, by species and state (or Alaskan region), for which each method of escapement estimation is used.

Quality	Method	Species	Species					All Species
			Chinook	Chum	Coho	Pink	Sockeye	
Washington								
Excellent	Dam count			2				2
	Trap count		2	3	31			5
Good	Dam or trap estimate		81	12	10	1		3
	Tower							0
	Sonar							0
Fair	Mark/recapture							0
	Combined	21		8				42
Poor	Foot survey	19	25	52				111
	Aerial survey	2			1			4
	Boat survey	3						3
	Snorkeling							0
	Test fishing							0
None	No method		1	24				44
No information	No information	30	117	1	13	6	64	230
Oregon								
Excellent	Dam count	6						6
	Trap count							0
Good	Dam or trap estimate							0
	Tower							0
	Sonar							0
Fair	Mark/recapture							0
	Combined							0
Poor	Foot survey	29	8	19				56
	Aerial survey							0
	Boat survey							0
	Snorkeling							0
	Test fishing							0
None	No method							0
No information	No information						120	120
California								
Excellent	Dam count	3						3
	Trap count							0
Good	Dam or trap estimate							0
	Tower	1						1
	Sonar							0
Fair	Mark/recapture							0
	Combined							0
Poor	Foot survey							0
	Aerial survey							0
	Boat survey							0
	Snorkeling							0
	Test fishing							0
None	No method	1						1
No information	No information	2						2

APPENDIX TABLE 17.3 (continued)

Number of populations, by species and state (or Alaskan region), for which each escapement estimation type is used.

Quality	Method	Species	Species						All Species
			Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Alaska Peninsula/Aleutian Islands)									
Excellent	Total	8	0	0	0	0	0	0	0
Good	Total estimate	6	1	4	14	26	2	1	2
Peak count estimate	10	115	18	294	51	1	1	488	488
Good index	0	0	0	0	0	0	0	0	0
Total redds	0	0	0	0	0	0	0	0	0
Fair	One count	8	1	1	0	0	0	0	0
Fair index	8	15	1	0	0	0	0	0	0
Redd survey	23	25	18	13	1	0	0	0	0
Poor	One count—sporadic	8	5	24	138	1	0	0	0
Poor index	8	8	3	8	1	0	0	0	0
Carcass count	0	0	0	0	0	0	0	0	0
Carcass index	0	0	0	0	0	0	0	0	0
None	No method	8	1	1	0	5	0	0	0
No information	No information	8	1	1	3	0	5	6	15
Alaska (Bristol Bay)									
Excellent	Total	0	0	0	0	0	0	0	0
Good	Total estimate	2	0	0	2	2	8	0	14
Peak count estimate	26	25	9	8	10	10	1	78	78
Good index	0	0	0	0	0	0	0	0	0
Total redds	0	0	0	0	0	0	0	0	0
Fair	One count	3	0	0	0	0	0	0	3
Fair index	0	0	0	0	0	0	0	0	0
Redd survey	18	18	8	25	0	0	0	0	0
Poor	One count—sporadic	4	4	202	30	419	0	0	0
Poor index	0	0	0	0	0	0	0	0	0
Carcass count	0	0	0	0	0	0	0	0	0
Carcass index	0	0	0	0	0	0	0	0	0
None	No method	0	0	0	0	2	0	0	2
No information	No information	0	0	0	0	0	0	0	0
Alaska (Chignik)									
Excellent	Total	0	0	0	0	0	0	0	0
Good	Total estimate	1	48	1	48	2	2	0	100
Peak count estimate	0	0	0	0	0	0	0	0	0
Good index	0	0	0	0	0	0	0	0	0
Total redds	0	0	0	0	0	0	0	0	0
Fair	One count	0	0	0	3	0	0	0	3
Fair index	0	0	0	0	0	0	0	0	0
Redd survey	0	0	0	0	0	0	0	0	0
Poor	One count—sporadic	32	742	63	5	0	0	0	0
Poor index	0	0	0	0	0	0	0	0	0
Carcass count	0	0	0	0	0	0	0	0	0
Carcass index	0	0	0	0	0	0	0	0	0
None	No method	0	0	770	127	0	0	0	0
No information	No information	0	0	0	2405	0	0	0	0

APPENDIX TABLE 17.3 (continued)

APPENDIX TABLE 17.5 (continued)
 Number of populations, by species and state (or Alaskan region), for which each escapement estimation type is used.

Quality	Method	Species	Alaska (Cook Inlet)						All Species
			Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Cook Inlet)									
Excellent	Total		1	5	3	2	10	10	0
Good	Total estimate		3	4	31	10	10	10	48
	Peak count			14	18				14
	Good index								0
	Total redds		5						0
Fair	One count		22	18					22
	Fair index				3				9
	Redd survey								0
Poor	One count—sporadic		46	88					0
	Poor index								0
	Carcass count								0
	Carcass index								0
None	No method								0
No information	No information								0
Alaska (Kodiak)									
Excellent	Total		1	5	13	13	13	13	13
Good	Total estimate		3	3	14	14	14	14	34
	Peak count			88	35	159	29	29	311
	Good index		10	15					0
	Total redds		2	3					0
Fair	One count						One count	1	1
	Fair index		81	8	3		Fair index	0	0
	Redd survey		13	14	14		Redd survey	0	0
Poor	One count—sporadic				1		One count—sporadic	0	0
	Poor index				5		Poor index	0	0
	Carcass count						Carcass count	0	0
	Carcass index						Carcass index	0	0
None	No method		45	1			No method	0	0
No information	No information		41	1	25	1	No information	26	26
Alaska (Prince William Sound)									
Excellent	Total		1	5	3	3	3	3	0
Good	Total estimate			203	419	419	18	18	625
	Peak count		10	8	30	30	30	18	58
	Good index								0
	Total redds								0
Fair	One count						One count	0	0
	Fair index						Fair index	0	0
	Redd survey						Redd survey	0	0
Poor	One count—sporadic						One count—sporadic	0	0
	Poor index						Poor index	0	0
	Carcass count						Carcass count	0	0
	Carcass index						Carcass index	0	0
None	No method						No method	0	0
No information	No information						No information	0	0

APPENDIX TABLE 17.3 (continued)

Number of populations, by species and state (or Alaskan region), for which each escapement estimation type is used.

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
Alaska (Alaska Islands)								
Excellent	Total	2		1				3
Good	Total estimate		4	6		27	2	39
	Peak count	19		14	1	1		35
	Good index							0
	Total redds			2				2
Fair	One count		61			8	1	70
	Fair index							0
	Redd survey	2						2
Poor	One count—sporadic		680	644		90	17	1431
	Poor index							0
	Carcass count							0
	Carcass index							0
None	No method	1	770	1707		84	316	2878
No information	No information	61	1		2407	1		2470
Washington								
Excellent	Total		2	6				8
Good	Total estimate					3		3
	Peak count	1	2					3
	Good index	12		10		6		28
	Total redds	7		5				12
Fair	One count					2		2
	Fair index	2	6	18		4		30
	Redd survey	14		21		15		50
Poor	One count—sporadic	1						1
	Poor index	2		4				6
	Carcass count							0
	Carcass index	3						3
None	No method		1	24		19		44
No information	No information	33	134	2	14	66		255
Oregon								
Excellent	Total	6						6
Good	Total estimate							0
	Peak count	22	8					30
	Good index			19				19
	Total redds							0
Fair	One count							0
	Fair index							0
	Redd survey	1						1
Poor	One count—sporadic							0
	Poor index							0
	Carcass count							0
	Carcass index	6						6
None	No method							0
No information	No information					120		123

APPENDIX TABLE 17.3 (continued)

Number of populations, by species and state (or Alaskan region), for which each escapement estimation type is used.

Quality	Method	Species						All Species
		Chinook	Chum	Coho	Pink	Sockeye	Steelhead	
California								
Excellent	Total							0
Good	Total estimate	4						4
	Peak count							0
	Good index							0
Fair	Total redds	38						0
	One count	34						0
	Fair index	18						0
Poor	Redd survey	10						0
	One count—sporadic							0
	Poor index							0
	Carcass count							0
	Carcass index							0
None	No method	1						1
No information	No information	2						2

are healthy. Throughout Southeast Alaska, coho *O. kisutch*, chum *O. keta*, and pink *O. gorbuscha* runs are at healthy to record-high abundances, but data are lacking to determine how Sockeye stocks follow the regional trend. For the Taku River, marine harvest and inriver run escapement and postseascape escapement are estimated using a wide range of biological data, including growth, analysis of juvenile, analysis of biological markers, adult and recapture estimates, weirs, and aerial surveys. Taku sockeye, coho, and pink salmon are experiencing above-average to record-high abundance. Chinook populations are healthy, and chum salmon are declining. A weir and aerial survey provide index escapement estimates for Alaska salmonids; these data indicate that sockeye salmon remain near historical average abundance but the chinook indices appear stable. U.S./Canada transboundary river research programs, although of recent origin, have provided a variety of information critical for maintaining sustainable fisheries on these salmon rivers. The transboundary river programs provide a good model for international and inter-agency cooperation in management of shared fisheries resources.

The Stikine and Alsek rivers are transboundary rivers that originate in Canada and flow into the U.S. before entering the Pacific Ocean, near the southeast Alaska communities of Hazelton, Juneau, and Yakutat, respectively. Anadromous stocks of chinook *Oncorhynchus tshawytscha*, coho *O. kisutch*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon from these rivers are harvested in commercial, recreational, aboriginal, subsistence, and personal-use fisheries in both nations. The ability to manage these resources depends on abundance and productivity, and living resource knowledge increases. The Pacific Salmon Commission (PSC) provides a forum in which U.S. and Canadian agencies run cooperative research programs.

APPENDIX TABLE 17.4 (continued)

Number of management units and stocks per management unit for each U.S. state (or Alaskan region) and species.

State or region	Species	Number of management units	Number of populations	Stocks per management unit
Alaska (Alaska Peninsula and Aleutian Islands)	Chinook	6	11	1.8
	Chum	12	118	9.8
	Coho	9	23	2.6
	Pink	20	300	15.0
	Sockeye	17	53	3.1
Alaska (Bristol Bay)	Chinook	28	31	1.1
	Chum	24	25	1.0
	Coho	13	13	1.0
	Pink	10	10	1.0
	Sockeye	18	18	1.0
Alaska (Chignik)	Chinook	1	1	1.0
	Chum	5	48	9.6
	Coho	2	4	2.0
	Pink	5	48	9.6
	Sockeye	2	2	1.0
Alaska (Cook Inlet)	Chinook	25	25	1.0
	Chum	14	14	1.0
	Coho	7	7	1.0
	Pink	30	31	1.0
	Sockeye	15	16	1.1
Alaska (Kodiak)	Chinook	3	3	1.0
	Chum	85	91	1.1
	Coho	47	74	1.6
	Pink	106	173	1.6
	Sockeye	43	45	1.0
Alaska (Prince William Sound)	Chinook	2	10	5.0
	Chum	7	203	29.0
	Coho	2	30	15.0
	Pink	16	419	26.2
	Sockeye	5	21	4.2
Alaska (Southeast)	Chinook	10	85	8.5
	Chum	12	1516	126.3
	Coho	7	2374	339.1
	Pink	6	2408	401.3
	Sockeye	8	211	26.4
Washington	Steelhead	7	336	48.0
	Chinook	52	75	1.4
	Chum	82	145	1.8
	Coho	43	90	2.1
	Pink	13	14	1.1
	Sockeye	6	6	1.0
	Steelhead	92	115	1.2
Oregon	Chinook—spawning	12	35	2.9
	Chum	2	8	4.0
	Coho	2	19	9.5
	Steelhead	84	120	1.4
California	Chinook	7	7	1.0